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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,302	02/05/2002	Densen Cao	5061.8A P	1021

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EXAMINER

PADGETT, MARIANNE L

ART UNIT PAPER NUMBER

1762

DATE MAILED: 03/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/072,302

Applicant(s)

CAO, DENSEN

Examiner

Marianne L. Padgett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-18 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

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1. Claims 1-18 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, last line “apply said light to a composite material to be light cured” (emphasis added) is not a positive curing step, as it does not necessitate that any curing take place, but only implies its probably future occurrence, where the time or intensity or the like may even be insufficient. Therefore, the preamble and the body of the claim are still not commensurate in scope. See like problems with the phrasing of the other independent claims 7 and 13.

The concept of pulsed power or current input causing less heating of devices due to the pulse energy in put is well known and understood. The problem with the claims is the literal language that still requires the average power output level of power level I (that is pulsed) to be greater than a continuous power level of the same instant input (when not off), i.e. $(P.L.I - \text{power for time pulse}) / \text{time} = \text{average output level} > P.L.I$ (never pulsed). While some of the discussion on page 7/9 of the response of 11/26/04 in applicant's remark appear to be incompletely expressed, the examiner believes that the concept being put forth, is that the LED chips, if over heated by constant current input will output less light, but what is being claimed is not light output but power, which is what goes into the LED. As written, it appears that the “power level I” of the independent claim 1 corresponds to the “average power level that resembles a continuous wave output” which is the power produced by the input current, so that input current and output power thereof directly correspond, such that less input equals more (output) power does not make sense. There may be some clarity problem with the power level terms that is obscuring intended meaning. Also, while the pulsed current is related to potential heat build up which would decrease light emission, there is no necessary heat buildup in the claimed process, if not pulsed, so no necessary decrease in light emission in claim 1, and probably not in claim 2 either lacking clarification in the claim language or relationship (or other intended meaning) of various terms. However, as presently claimed

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power level I = power level I, whether it is pulsed or continuous, so of one then averages it when pulsed over a time period, it can not physically be greater than when it is continuously applied. Power level input/output of what may benefit from clarification. Applicant's appear to need to modify the claim language to correspond to their intent. Also see claim 7-8 and 13-14.

2 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kovac et al (WO 99/35995), in view of Kennedy (5,233,283) or Ostler et al (6,282,013 B1) as applied in section 3 of the paper mailed 5/25/04.

Applicant's comments concerning Kennedy's pulsed input being to the battery are noted, but applicant's discussion is consistent with that of the examiner on p. 5 of the 5/25/04 action, which is consistent with the claim language, as the battery will power the LED and its input is pulsed, and the output is consistent with average power level resembling continuous waves. From applicant's discussion,

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it is probable that clarifying claim language may remove this combination, but that will depend on the wording.

Alternately, with respect to Ostler et al, it is noted that modulated is synonymous with or overlapping with pulsed, and as seen in Figure 12 & 15-24, pulsed power is explicitly shown. Furthermore, the average power will inherently resemble the continuous wave output for some unspecified output as claimed.

4. Applicant's arguments filed 11/26/04 and discussed above have been fully considered but they are not persuasive.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne L. Padgett whose telephone number is (571) 272-1425. The examiner can normally be reached on M-F from about 8:30 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks, can be reached at (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. L. Padgett/af
March 2, 2005
March 25, 2005



MARIANNE PADGETT
PRIMARY EXAMINER